

## SEQUENCE LISTING

<110> LICHA, KAI  
 BECKER, ANDREAS  
 SEMMLER, WOLFHARD  
 WEIDENMANN, BERTRAM  
 HESSNIUS, CARTSEN  
 VOLKMER-ENGERT, RUDOLF  
 SCHNEIDER-MERGENER, JENS  
 BHARGAVA, SARAH

<120> SHORT-CHAIN PEPTIDE-DYE CONJUGATES AS CONTRAST MEDIA  
 FOR OPTICAL DIAGNOSIS

<130> SCH-1731

<140> 09/528,200

<141> 2000-03-17

<150> DE 199 17 713.9

<151> 1999-09-04

<160> 196

<170> PatentIn Ver. 2.1

<210> 1

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 1

His Trp Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 2

<211> 28

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<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 2

His Ser Asp Ala Val Phe Thr Phe Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 3  
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<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 3  
 His Ser Asp Ala Val Phe Thr Lys Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 4  
 <211> 28  
 <212> PRT  
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<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 4  
 His Ser Asp Ala Val Phe Thr Gln Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 5  
 <211> 28  
 <212> PRT  
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<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 5  
 His Ser Asp Ala Val Phe Thr Arg Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 6  
 <211> 28  
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 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 6

His Ser Asp Ala Val Phe Thr Trp Asn Tyr Thr Arg Leu Arg Lys Gln  
1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
20 25

<210> 7

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 7

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Arg Arg Leu Arg Lys Gln  
1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
20 25

<210> 8

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 8

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
1 5 10 15

Met Arg Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
20 25

<210> 9

<211> 14

<212> PRT

<213> Homo sapiens

<400> 9

Ala Gly Cys Lys Asn Phe Phe Trp Lys Thr Phe Thr Ser Cys  
1 5 10

<210> 10

<211> 13

<212> PRT  
 <213> Homo sapiens

<220>  
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 <222> (1)  
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<400> 10  
 Glu Leu Tyr Glu Asn Lys Pro Arg Arg Pro Tyr Ile Leu  
           1                  5                  10

<210> 11  
 <211> 17  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 11  
 Arg Leu Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu  
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Asn

<210> 12  
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<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 12  
 Leu Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
           1                  5                  10                  15

<210> 13  
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<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 13  
 Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
           1                  5                  10                  15

<210> 14  
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<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 14  
Lys Gln Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
1 5 10

<210> 15  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 15  
Gln Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
1 5 10

<210> 16  
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<212> PRT  
<213> Artificial Sequence

<220>  
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peptide

<400> 16  
Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
1 5 10

<210> 17  
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<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 17  
Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
1 5 10

<210> 18  
<211> 16

<212> PRT  
 <213> Artificial Sequence

<220>  
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<400> 18  
 Arg Leu Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu  
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<210> 19  
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 <212> PRT  
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<220>  
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<400> 19  
 Leu Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu  
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<210> 20  
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 <212> PRT  
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<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 20  
 Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu  
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<210> 21  
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<220>  
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 peptide

<400> 21  
 Lys Gln Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu  
           1                  5                  10

<210> 22  
 <211> 12  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 22

Gln Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu  
1 5 10

<210> 23

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 23

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu  
1 5 10

<210> 24

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 24

Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu  
1 5 10

<210> 25

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 25

Arg Leu Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn Ser Ile  
1 5 10 15

<210> 26

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 26

Leu Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn Ser Ile  
1 5 10

<210> 27

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 27

Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn Ser Ile  
1 5 10

<210> 28

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 28

Lys Gln Met Ala Val Lys Lys Tyr Leu Asn Ser Ile  
1 5 10

<210> 29

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 29

Gln Met Ala Val Lys Lys Tyr Leu Asn Ser Ile  
1 5 10

<210> 30

<211> 10

<212> PRT

<213> Artificial Sequence



<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 30

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile  
1 5 10

<210> 31

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 31

Ala Val Lys Lys Tyr Leu Asn Ser Ile  
1 5

<210> 32

<211> 14

<212> PRT

<213> Homo sapiens

<400> 32

Arg Leu Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn Ser  
1 5 10

<210> 33

<211> 13

<212> PRT

<213> Homo sapiens

<400> 33

Leu Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn Ser  
1 5 10

<210> 34

<211> 12

<212> PRT

<213> Homo sapiens

<400> 34

Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn Ser  
1 5 10

<210> 35

<211> 11

<212> PRT

<213> Homo sapiens

<400> 35  
 Lys Gln Met Ala Val Lys Lys Tyr Leu Asn Ser  
 1 5 10

<210> 36  
 <211> 10  
 <212> PRT  
 <213> Homo sapiens

<400> 36  
 Gln Met Ala Val Lys Lys Tyr Leu Asn Ser  
 1 5 10

<210> 37  
 <211> 9  
 <212> PRT  
 <213> Homo sapiens

<400> 37  
 Met Ala Val Lys Lys Tyr Leu Asn Ser  
 1 5

<210> 38  
 <211> 8  
 <212> PRT  
 <213> Homo sapiens

<400> 38  
 Ala Val Lys Lys Tyr Leu Asn Ser  
 1 5

<210> 39  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 39  
 Arg Leu Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn  
 1 5 10

<210> 40  
 <211> 12  
 <212> PRT  
 <213> Homo sapiens

<400> 40  
 Leu Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn  
 1 5 10

<210> 41  
 <211> 11  
 <212> PRT

<213> Homo sapiens

<400> 41

Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn  
1 5 10

<210> 42

<211> 10

<212> PRT

<213> Homo sapiens

<400> 42

Lys Gln Met Ala Val Lys Lys Tyr Leu Asn  
1 5 10

<210> 43

<211> 9

<212> PRT

<213> Homo sapiens

<400> 43

Gln Met Ala Val Lys Lys Tyr Leu Asn  
1 5

<210> 44

<211> 8

<212> PRT

<213> Homo sapiens

<400> 44

Met Ala Val Lys Lys Tyr Leu Asn  
1 5

<210> 45

<211> 7

<212> PRT

<213> Homo sapiens

<400> 45

Ala Val Lys Lys Tyr Leu Asn  
1 5

<210> 46

<211> 12

<212> PRT

<213> Homo sapiens

<400> 46

Arg Leu Arg Lys Gln Met Ala Val Lys Lys Tyr Leu  
1 5 10

<210> 47  
 <211> 11  
 <212> PRT  
 <213> Homo sapiens

<400> 47  
 Leu Arg Lys Gln Met Ala Val Lys Lys Tyr Leu  
       1                      5                      10

<210> 48  
 <211> 10  
 <212> PRT  
 <213> Homo sapiens

<400> 48  
 Arg Lys Gln Met Ala Val Lys Lys Tyr Leu  
       1                      5                      10

<210> 49  
 <211> 9  
 <212> PRT  
 <213> Homo sapiens

<400> 49  
 Lys Gln Met Ala Val Lys Lys Tyr Leu  
       1                      5

<210> 50  
 <211> 8  
 <212> PRT  
 <213> Homo sapiens

<400> 50  
 Gln Met Ala Val Lys Lys Tyr Leu  
       1                      5

<210> 51  
 <211> 7  
 <212> PRT  
 <213> Homo sapiens

<400> 51  
 Met Ala Val Lys Lys Tyr Leu  
       1                      5

<210> 52  
 <211> 6  
 <212> PRT  
 <213> Homo sapiens

<400> 52  
 Ala Val Lys Lys Tyr Leu  
       1                      5

<210> 53  
 <211> 28  
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<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 53

Phe Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 54  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 54

Ile Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 55  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 55

Leu Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 56  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 56

His	Phe	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5					10					15	

Met	Ala	Val	Lys	Lys	Tyr	Leu	Asn	Ser	Ile	Leu	Asn
			20				25				

&lt;210&gt; 57

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 57

His	His	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5					10					15	

Met	Ala	Val	Lys	Lys	Tyr	Leu	Asn	Ser	Ile	Leu	Asn
			20				25				

&lt;210&gt; 58

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 58

His	Ile	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5					10					15	

Met	Ala	Val	Lys	Lys	Tyr	Leu	Asn	Ser	Ile	Leu	Asn
			20				25				

&lt;210&gt; 59

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 59

His	Leu	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5					10					15	

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                  25

<210> 60  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 60  
 His Met Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
       1                  5                  10                  15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                  25

<210> 61  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 61  
 His Gln Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
       1                  5                  10                  15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                  25

<210> 62  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 62  
 His Thr Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
       1                  5                  10                  15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                  25

<210> 63  
 <211> 28

<212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 63  
 His Val Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 64  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 64  
 His Trp Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 65  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 65  
 His Tyr Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 66  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide



&lt;400&gt; 66

His Ser Ala Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

&lt;210&gt; 67

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 67

His Ser Glu Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

&lt;210&gt; 68

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 68

His Ser Phe Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

&lt;210&gt; 69

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 69

His Ser His Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 70  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 70  
 His Ser Ile Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
           1                  5                  10                  15  
 Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                  25

<210> 71  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 71  
 His Ser Leu Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
           1                  5                  10                  15  
 Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                  25

<210> 72  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 72  
 His Ser Met Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
           1                  5                  10                  15  
 Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                  25

<210> 73  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 73

His	Ser	Trp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5				10						15	

Met	Ala	Val	Lys	Lys	Tyr	Leu	Asn	Ser	Ile	Leu	Asn
			20				25				

&lt;210&gt; 74

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 74

His	Ser	Asp	Phe	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5				10						15	

Met	Ala	Val	Lys	Lys	Tyr	Leu	Asn	Ser	Ile	Leu	Asn
			20				25				

&lt;210&gt; 75

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 75

His	Ser	Asp	Gly	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5				10						15	

Met	Ala	Val	Lys	Lys	Tyr	Leu	Asn	Ser	Ile	Leu	Asn
			20				25				

&lt;210&gt; 76

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 76

His	Ser	Asp	Met	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5				10						15	

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                                  25

<210> 77  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 77  
 His Ser Asp Gln Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
       1                  5                                  10                                  15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                                  25

<210> 78  
 <211> 28  
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<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 78  
 His Ser Asp Ser Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
       1                  5                                  10                                  15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                                  25

<210> 79  
 <211> 28  
 <212> PRT  
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<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 79  
 His Ser Asp Trp Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
       1                  5                                  10                                  15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                                  25

<210> 80  
 <211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 80

His Ser Asp Tyr Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
20 25

<210> 81

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 81

His Ser Asp Ala Phe Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
20 25

<210> 82

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 82

His Ser Asp Ala Ile Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
20 25

<210> 83

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 83

His Ser Asp Ala Leu Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

&lt;210&gt; 84

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 84

His Ser Asp Ala Met Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

&lt;210&gt; 85

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 85

His Ser Asp Ala Thr Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

&lt;210&gt; 86.

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 86

His Ser Asp Ala Trp Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 87  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 87  
 His Ser Asp Ala Tyr Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 88  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 88  
 His Ser Asp Ala Val Lys Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 89  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 89  
 His Ser Asp Ala Val Phe Val Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 90  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 90

His	Ser	Asp	Ala	Val	Phe	Trp	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5					10					15	

Met	Ala	Val	Lys	Lys	Tyr	Leu	Asn	Ser	Ile	Leu	Asn
			20				25				

&lt;210&gt; 91

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 91

His	Ser	Asp	Ala	Val	Phe	Thr	Asp	Asn	Trp	Thr	Arg	Leu	Arg	Lys	Gln
1				5					10					15	

Met	Ala	Val	Lys	Lys	Tyr	Leu	Asn	Ser	Ile	Leu	Asn
			20				25				

&lt;210&gt; 92

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 92

His	Ser	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Arg	Arg	Lys	Gln
1				5					10					15	

Met	Ala	Val	Lys	Lys	Tyr	Leu	Asn	Ser	Ile	Leu	Asn
			20				25				

&lt;210&gt; 93

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 93

His	Ser	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Trp	Arg	Lys	Gln
1				5					10					15	



Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                  25

<210> 94  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 94  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Phe Gln  
   1                  5                  10                  15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                  25

<210> 95  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 95  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Leu Gln  
   1                  5                  10                  15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                  25

<210> 96  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 96  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Met Gln  
   1                  5                  10                  15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                  25

<210> 97  
 <211> 28

<212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 97  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Arg Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 98  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 98  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Ala  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 99  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 99  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Phe  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 100  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

&lt;400&gt; 100

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Ile  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

&lt;210&gt; 101

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 101

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Lys  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

&lt;210&gt; 102

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 102

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Leu  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

&lt;210&gt; 103

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 103

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Met  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 104  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 104  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Arg  
 1 5 10 15  
 Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 105  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 105  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Val  
 1 5 10 15  
 Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 106  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 106  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Trp  
 1 5 10 15  
 Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 107  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 107

His	Ser	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Tyr
1				5					10					15	

Met	Ala	Val	Lys	Lys	Tyr	Leu	Asn	Ser	Ile	Leu	Asn
			20				25				

&lt;210&gt; 108

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 108

His	Ser	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5					10					15	

Phe	Ala	Val	Lys	Lys	Tyr	Leu	Asn	Ser	Ile	Leu	Asn
			20				25				

&lt;210&gt; 109

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 109

His	Ser	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5					10					15	

Ile	Ala	Val	Lys	Lys	Tyr	Leu	Asn	Ser	Ile	Leu	Asn
			20				25				

&lt;210&gt; 110

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 110

His	Ser	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5					10					15	

Lys Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                                  25

<210> 111  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 111  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
   1                  5                                  10                                  15

Leu Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                                  25

<210> 112  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 112  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
   1                  5                                  10                                  15

Gln Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                                  25

<210> 113  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 113  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
   1                  5                                  10                                  15

Arg Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                                  25

<210> 114  
 <211> 28

<212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 114  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
           1                  5                  10                  15  
 Trp Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                  25

<210> 115  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 115  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
           1                  5                  10                  15  
 Met Phe Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                  25

<210> 116  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 116  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
           1                  5                  10                  15  
 Met Ile Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                  25

<210> 117  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

&lt;400&gt; 117

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Lys Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

&lt;210&gt; 118

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 118

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Leu Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

&lt;210&gt; 119

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 119

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Met Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

&lt;210&gt; 120

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 120

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Gln Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25



<210> 121  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 121  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15  
 Met Arg Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 122  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 122  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15  
 Met Val Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 123  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 123  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15  
 Met Trp Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

<210> 124  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 124

His	Ser	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5				10						15	

Met	Tyr	Val	Lys	Lys	Tyr	Leu	Asn	Ser	Ile	Leu	Asn
			20				25				

&lt;210&gt; 125

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 125

His	Ser	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5				10						15	

Met	Ala	Ala	Lys	Lys	Tyr	Leu	Asn	Ser	Ile	Leu	Asn
			20				25				

&lt;210&gt; 126

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 126

His	Ser	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5				10						15	

Met	Ala	Ile	Lys	Lys	Tyr	Leu	Asn	Ser	Ile	Leu	Asn
			20				25				

&lt;210&gt; 127

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 127

His	Ser	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5				10						15	

Met Ala Leu Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                                  25

<210> 128  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 128  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
       1                                  5                                  10                                  15

Met Ala Val Arg Lys Tyr Leu Asn Ser Ile Leu Asn  
                   20                                  25

<210> 129  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 129  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
       1                                  5                                  10                                  15

Met Ala Val Lys Arg Tyr Leu Asn Ser Ile Leu Asn  
                   20                                  25

<210> 130  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 130  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
       1                                  5                                  10                                  15

Met Ala Val Lys Trp Tyr Leu Asn Ser Ile Leu Asn  
                   20                                  25

<210> 131  
 <211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 131

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
1 5 10 15

Met Ala Val Lys Lys Phe Leu Asn Ser Ile Leu Asn  
20 25

<210> 132

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 132

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
1 5 10 15

Met Ala Val Lys Lys Trp Leu Asn Ser Ile Leu Asn  
20 25

<210> 133

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 133

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
1 5 10 15

Met Ala Val Lys Lys Tyr Leu Ala Ser Ile Leu Asn  
20 25

<210> 134

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 134

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Phe Ser Ile Leu Asn  
 20 25

&lt;210&gt; 135

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 135

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Ile Ser Ile Leu Asn  
 20 25

&lt;210&gt; 136

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 136

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Met Ser Ile Leu Asn  
 20 25

&lt;210&gt; 137

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 137

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Ser Ser Ile Leu Asn  
 20 25

<210> 138  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 138  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Val Ser Ile Leu Asn  
 20 25

<210> 139  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 139  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Trp Ser Ile Leu Asn  
 20 25

<210> 140  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 140  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Asn Ile Leu Asn  
 20 25

<210> 141  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 141

His	Ser	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5					10					15	

Met	Ala	Val	Lys	Lys	Tyr	Leu	Asn	Arg	Ile	Leu	Asn
			20				25				

&lt;210&gt; 142

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 142

His	Ser	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5					10					15	

Met	Ala	Val	Lys	Lys	Tyr	Leu	Asn	Trp	Ile	Leu	Asn
			20				25				

&lt;210&gt; 143

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 143

His	Ser	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5					10					15	

Met	Ala	Val	Lys	Lys	Tyr	Leu	Asn	Tyr	Ile	Leu	Asn
			20				25				

&lt;210&gt; 144

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 144

His	Ser	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5					10					15	

Met Ala Val Lys Lys Tyr Leu Asn Ser Leu Leu Asn  
                   20                                  25

<210> 145  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 145  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
   1                                  5                                  10                                  15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ser Leu Asn  
                   20                                  25

<210> 146  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 146  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
   1                                  5                                  10                                  15

Met Ala Val Lys Lys Tyr Leu Asn Ser Trp Leu Asn  
                   20                                  25

<210> 147  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 147  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
   1                                  5                                  10                                  15

Met Ala Val Lys Lys Tyr Leu Asn Ser Tyr Leu Asn  
                   20                                  25

<210> 148  
 <211> 28



<212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 148  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Phe Asn  
 20 25

<210> 149  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 149  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Ile Asn  
 20 25

<210> 150  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 150  
 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Trp Asn  
 20 25

<210> 151  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

&lt;400&gt; 151

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Trp  
 20 25

&lt;210&gt; 152

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;220&gt;

&lt;221&gt; MOD\_RES

&lt;222&gt; (8)..(9)

&lt;223&gt; any amino acid

&lt;220&gt;

&lt;221&gt; MOD\_RES

&lt;222&gt; (11)

&lt;223&gt; any amino acid

&lt;400&gt; 152

His Ser Asp Ala Val Phe Thr Xaa Xaa Tyr Xaa Arg Leu Arg Lys Gln  
 1 5 10 15

Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
 20 25

&lt;210&gt; 153

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;220&gt;

&lt;221&gt; MOD\_RES

&lt;222&gt; (1)

&lt;223&gt; can represent an amino acid or amino acid derivative that are not natural

&lt;220&gt;

&lt;221&gt; MOD\_RES

&lt;222&gt; (6)

&lt;223&gt; can represent an amino acid or amino acid derivatives that are not natural

&lt;220&gt;

&lt;221&gt; MOD\_RES

<222> (10)

<223> can represent an amino acid or amino acid derivatives that are not natural

<220>

<221> MOD\_RES

<222> (22)

<223> can represent an amino acid or amino acid derivatives that are not natural

<400> 153

Xaa Ser Asp Ala Val Xaa Thr Asp Asn Xaa Thr Arg Leu Arg Lys Gln  
1 5 10 15

Met Ala Val Lys Lys Xaa Leu Asn Ser Ile Leu Asn  
20 25

<210> 154

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 154

Cys Lys Asn Phe Phe Trp Lys Thr Phe Thr Ser Cys  
1 5 10

<210> 155

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 155

Phe Phe Tyr Trp Lys Val Phe Thr  
1 5

<210> 156

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 156

Phe Cys Phe Trp Lys Val Cys Thr  
1 5

<210> 157  
 <211> 8  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 157  
 Phe Cys Tyr Trp Lys Val Cys Thr  
 1 5

<210> 158  
 <211> 8  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 158  
 Phe Cys Phe Trp Lys Thr Cys Thr  
 1 5

<210> 159  
 <211> 8  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 159  
 Phe Cys Tyr Trp Lys Thr Cys Thr  
 1 5

<210> 160  
 <211> 7  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic peptide

<220>  
 <221> MOD\_RES  
 <222> (6)  
 <223> Abu

<400> 160

Phe Cys Tyr Trp Lys Xaa Cys  
1 5

<210> 161

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<220>

<221> MOD\_RES

<222> (1)

<223> pGlu

<400> 161

Glu Leu Tyr Gln Asn Lys Pro Arg Arg Pro Tyr Ile Leu  
1 5 10

<210> 162

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 162

Glu Leu Tyr Gln Asn Lys Pro Arg Arg Pro Tyr Ile Leu  
1 5 10

<210> 163

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 163

Glu Leu Tyr Glu Asn Lys Pro Arg Arg Pro Phe Ile Leu  
1 5 10

<210> 164

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 164

Glu Leu Tyr Glu Asn Lys Pro Arg Arg Pro Phe Ile Leu  
1 5 10

<210> 165

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 165

Glu Leu Tyr Gln Asn Lys Pro Arg Arg Pro Phe Ile Leu  
1 5 10

<210> 166

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 166

Glu Leu Tyr Gln Asn Lys Pro Arg Arg Pro Phe Ile Leu  
1 5 10

<210> 167

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 167

Glu Leu Tyr Glu Asn Lys Pro Arg Arg Pro Trp Ile Leu  
1 5 10

<210> 168

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 168

Glu Leu Tyr Glu Asn Lys Pro Arg Arg Pro Trp Ile Leu  
1 5 10

<210> 169

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 169

Glu Leu Tyr Gln Asn Lys Pro Arg Arg Pro Trp Ile Leu  
1 5 10

<210> 170

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 170

Glu Leu Tyr Gln Asn Lys Pro Arg Arg Pro Trp Ile Leu  
1 5 10

<210> 171

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 171

Glu Leu Tyr Glu Asn Lys Pro Arg Arg Pro Tyr Ile  
1 5 10

<210> 172

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 172

Glu Leu Tyr Glu Asn Lys Pro Arg Arg Pro Tyr  
1 5 10

<210> 173

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 173

Glu Leu Tyr Glu Asn Lys Pro Arg Arg Pro  
1 5 10

<210> 174

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 174

Glu Leu Tyr Glu Asn Lys Pro Arg Arg  
1 5

<210> 175

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 175

Glu Leu Tyr Glu Asn Lys Pro Arg  
1 5

<210> 176

<211> 7

<212> PRT

<213> Artificial Sequence



<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 176  
 Glu Leu Tyr Glu Asn Lys Pro  
 1 5

<210> 177  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 177  
 Asn Lys Pro Arg Arg Pro Tyr Ile Leu  
 1 5

<210> 178  
 <211> 8  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 178  
 Lys Pro Arg Arg Pro Tyr Ile Leu  
 1 5

<210> 179  
 <211> 7  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 179  
 Pro Arg Arg Pro Tyr Ile Leu  
 1 5

<210> 180  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 180

Arg Arg Pro Tyr Ile Leu  
1 5

<210> 181

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 181

Asn Lys Pro Arg Arg Pro Phe Ile Leu  
1 5

<210> 182

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 182

Lys Pro Arg Arg Pro Phe Ile Leu  
1 5

<210> 183

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 183

Pro Arg Arg Pro Phe Ile Leu  
1 5

<210> 184

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 184

Arg Arg Pro Phe Ile Leu  
1 5

<210> 185

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 185

Asn Lys Pro Arg Arg Pro Trp Ile Leu  
1 5

<210> 186

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 186

Lys Pro Arg Arg Pro Trp Ile Leu  
1 5

<210> 187

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 187

Pro Arg Arg Pro Trp Ile Leu  
1 5

<210> 188

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 188

Arg Arg Pro Trp Ile Leu  
1 5

<210> 189

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MOD\_RES

<222> (17)

<223> Indotricarbocyanine Cys

<400> 189

His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln  
1 5 10 15

Cys Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn  
20 25

<210> 190

<211> 11

<212> PRT

<213> Homo sapiens

<400> 190

Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn  
1 5 10

<210> 191

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 191

Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn Lys  
1 5 10

<210> 192

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 192

Arg Lys Gln Met Ala Val Lys Lys Tyr Leu Asn  
1 5 10

<210> 193

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 193

Asn Leu Tyr Lys Lys Val Ala Met Gln Lys Arg  
1 5 10

<210> 194

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 194

Asn Lys Pro Arg Arg Pro Tyr Ile Leu Cys  
1 5 10

<210> 195

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 195

Cys Tyr Trp Lys Val Cys  
1 5

<210> 196

<211> 28

<212> PRT

<213> Homo sapiens

&lt;400&gt; 196

His	Ser	Asp	Ala	Val	Phe	Thr	Asp	Asn	Tyr	Thr	Arg	Leu	Arg	Lys	Gln
1				5					10					15	

Met	Ala	Val	Lys	Lys	Tyr	Leu	Asn	Ser	Ile	Leu	Asn
			20					25			